

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 29689 6/1/2001]

[Docket No. 2001-NE-18-AD; Amendment 39-12246; AD 2001-11-05]

RIN 2120-AA64

Airworthiness Directives; CFM International (CFMI) CFM56-2, -2B, -3, -5B, -5C and -7B Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to CFMI CFM56-2, -2B, -3, -5B, -5C and -7B series turbofan engines. This action requires limiting engines with certain No. 4 bearings to one on each airplane, replacement of certain No. 4 bearings, and increased frequency of inspections for magnetic particles until the suspect bearing is replaced. This action is prompted by reports of two bearing failures in the fleet since December 2000. The actions specified in this AD are intended to prevent bearing failures, which could cause an engine failure.

DATES: Effective June 11, 2001.

Comments for inclusion in the Rules Docket must be received on or before July 31, 2001.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2001-NE-18-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be sent via the Internet using the following address: "9-ane-adcomment@faa.gov". Comments sent via the Internet must contain the docket number in the subject line.

FOR FURTHER INFORMATION CONTACT: James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7152, fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: This proposal is prompted by reports of two No. 4 bearing failures on CFMI CFM56-7B series turbofan engines since December 2000. Inspections of the failed bearings indicate marginal metallurgical structure, most likely due to an uneven heat treatment process. Both failed bearings are from a manufacturing lot of 47 parts simultaneously heat-treated. This condition, if not corrected, could result in bearing failures, which could cause an engine failure.

FAA's Determination of an Unsafe Condition and Proposed Actions

Since an unsafe condition has been identified that is likely to exist or develop on other CFMI CFM56-2, -2B, -3, -5B, -5C and -7B series turbofan engines of the same type design, this AD is being issued to prevent bearing failures which could cause an engine failure.

This AD requires:

- Limiting the number of engines with a suspect No. 4 bearing installed to one on each airplane within 300 hours time-in-service (TIS) after the effective date of this AD, but no later than July 1, 2001, whichever occurs earlier. AND
- Increasing the frequency of inspections for magnetic particles until the suspect bearing is replaced. AND

- Replacing all suspect No. 4 bearings within 2,000 hours TIS after the effective date of this AD, but no later than December 31, 2001, whichever occurs earlier.

Immediate Adoption of This AD

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2001-NE-18-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-11-05 CFM International: Amendment 39-12246. Docket 2001-NE-18-AD.

Applicability

This airworthiness directive (AD) is applicable to CFM International CFM56-2, -2B, -3, -5B, -5C and -7B series turbofan engines with a No. 4 bearing, part number (P/N) 305-355-717-0, that has a serial number (SN) listed in Table 1 of this AD installed. These engines are installed on, but not limited to Airbus Industrie A319, A320, A321 and A340 series airplanes, Boeing 737 and KC135 series airplanes, and McDonnell Douglas DC8 series airplanes.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (h) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Compliance with this AD is required as indicated, unless already done.
To prevent bearing failures, which could cause an engine failure, do the following:

Number of Hours until Number of Engines Must Be Limited

(a) Limit the number of engines with a suspect No. 4 bearing that has a SN listed in the following Table 1 of this AD to one on each airplane within 300 hours time-in-service (TIS) after the effective date of this AD, but no later than July 1, 2001, whichever occurs earlier:

Table 1. CFM56 Engines with Suspect No. 4 Bearings

Part Number	Part Serial Number	Engine Model	Engine Serial Number
305-355-717-0	DB387598-C	2B	714172
305-355-717-0	DB387670-5	2	692251
305-355-717-0	DB387608-F	3	725109
305-355-717-0	DB387612-8	3	720493
305-355-717-0	DB387614-4	3	721253
305-355-717-0	DB387625-H	3	720383
305-355-717-0	DB387647-Y	3	857594

Part Number	Part Serial Number	Engine Model	Engine Serial Number
305-355-717-0	DB387650-6	3	721237
305-355-717-0	DB387651-5	3	726245
305-355-717-0	DB387661-K	3	856671
305-355-717-0	DB387604-K	5B	779783
305-355-717-0	DB387605-J	5B	779784
305-355-717-0	DB387603-L	5B	779785
305-355-717-0	DB387590-5	5B	779786
305-355-717-0	DB387591-4	5B	779787
305-355-717-0	DB387634-3	5B	779796
305-355-717-0	DB387658-D	5B	779798
305-355-717-0	DB387654-2	5B	779799
305-355-717-0	DB387683-G	5B	779802
305-355-717-0	DB387648-W	5B	779803
305-355-717-0	DB387660-L	5B	779804
305-355-717-0	DB387606-H	5B	779960
305-355-717-0	DB387618-O	5B	779961
305-355-717-0	DB387599-B	5C	741948
305-355-717-0	DB387609-Y	7B	876395
305-355-717-0	DB387611-7	7B	876399
305-355-717-0	DB387615-3	7B	876400
305-355-717-0	DB387601-N	7B	876401
305-355-717-0	DB387594-1	7B	876403
305-355-717-0	DB387592-3	7B	876405
305-355-717-0	DB387610-8	7B	876406
305-355-717-0	DB387600-P	7B	876410
305-355-717-0	DB387649-V	7B	876421
305-355-717-0	DB387678-C	7B	876423
305-355-717-0	DB387652-4	7B	876424
305-355-717-0	DB387659-C	7B	876429
305-355-717-0	DB387693-1	7B	876431
305-355-717-0	DB387655-1	7B	876432
305-355-717-0	DB387684-F	7B	876434
305-355-717-0	DB387588-V	7B	876727
305-355-717-0	DB387657-E	7B	876729
305-355-717-0	DB387653-3	7B	876730
305-355-717-0	DB387597-D	7B	877404
305-355-717-0	DB387602-M	7B	877408
305-355-717-0	DB387589-U	7B	877427

Part Number	Part Serial Number	Engine Model	Engine Serial Number
305-355-717-0	DB387656-O	7B	875232
305-355-717-0	DB387671-4	7B	874219

Replacement of Suspect No. 4 Bearings

(b) For engines that have a suspect No. 4 bearing that has a SN listed in Table 1 of this AD, replace the No. 4 bearing with a serviceable part within 2,000 hours TIS, after the effective date of this AD, but no later than December 31, 2001, whichever occurs earlier.

Installation of Suspect No. 4 Bearings

(c) After the effective date of this AD, do not install any No. 4 bearing that has a SN listed in Table 1 of this AD.

(d) After the effective date of this AD, do not install any engine that has a No. 4 bearing with a serial number listed in Table 1 of this AD.

Initial Inspections for Chip Detector Indications

(e) For engines that have a suspect No. 4 bearing that has a SN listed in Table 1 of this AD, inspect for magnetic chip indications within in the specified times, and if necessary, disposition as follows:

- (1) For CFM56-5B engines, check electronic magnetic chip detector (EMCD) visual indicator within 50 to 75 hours TIS after the effective date of this AD.
- (2) For CFM56-5C engine (741948), check for class 2 Electronic Centralized Aircraft Monitor (ECAM) message “MAGNETIC CHIP DETECTED” before further flight.
- (3) For CFM56-7B engines equipped with Debris Monitoring System (DMS) option, check Flight Management Computer – Master Control Display Unit (FMC-MCDU) for message 79-2114 before further flight.
- (4) For CFM56-7B engines equipped with classic magnetic chip detectors (MCD), inspect aft sump MCD within 50 to 75 hours TIS after the effective date of this AD.
- (5) For CFM56-2, -2B, and -3 engines, inspect aft sump MCD within 50 to 75 hours TIS after the effective date of this AD.
- (6) If bearing particles are found, remove engine from service before further flight.

Repetitive Inspections for Chip Detector Indications

(f) Thereafter, inspect for chip indications in accordance with the specified time-since-last-inspection (TSLI), and if necessary, disposition as follows:

- (1) For CFM56-5B engines, check EMCD visual indicator every 50-75 hours TSLI.
- (2) For CFM56-5C engine (741948), check for class 2 ECAM message “MAGNETIC CHIP DETECTED” after every flight.
- (3) For CFM56-7B engines equipped with DMS option, check FMC-MCDU for message 79-2114 once per day.
- (4) For CFM56-7B engines equipped with classic MCD, inspect aft sump MCD every 50-75 hours TSLI.
- (5) For CFM56-2, -2B, and -3 engines, inspect aft sump MCD every 50-75 hours TSLI.
- (6) If bearing particles are found, remove engine from service before further flight.

Terminating Action

(g) Replacement of a No. 4 bearing that has a SN listed in Table 1 of this AD with a No. 4 bearing that does not have a SN listed in Table 1 of this AD is terminating action for the repetitive inspection requirements specified in paragraph (f) of this AD.

Alternative Methods of Compliance

(h) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. Operators shall submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Engine Certification Office.

Special Flight Permits

(i) Special flight permits may be issued in accordance §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

Effective Date of This AD

(j) This amendment becomes effective on June 11, 2001.

FOR FURTHER INFORMATION CONTACT: James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7152, fax (781) 238-7199.

Issued in Burlington, Massachusetts, on May 24, 2001.

Thomas A. Boudreau, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.